



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,875	10/02/2003	Katsumasa Yoshii	9281-4654	9827

7590 06/14/2006

Brinks Hofer Gilson & Lione
P.O. Box 10395
Chicago, IL 60610

EXAMINER

NGUYEN, DUNG T

ART UNIT	PAPER NUMBER
----------	--------------

2871

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/677,875

Applicant(s)

YOSHII, KATSUMASA

Examiner

Dung Nguyen

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-20 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/07/2006 has been entered.
2. Applicant's amendment dated 03/17/2006 has been received and entered. By the amendment, claims 1-20 are remain pending in the application.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 10, 12-13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al., US 5,841,496, in view of Sasaki, US 6,141,073 and Higashi, US 6,747,719.

Regarding the above claims, Ito et al. disclose a liquid crystal display (LCD) cell having the general structure of reflection substrate (31) on which is formed an aluminum reflecting layer (41) and an optical diffusion layer (epoxy resin smooth layer 53) deposited on the reflection substrate (31) and aluminum reflecting layer (41) (see figures 15a-15d) as stated in the final office action.

Art Unit: 2871

Ito et al, however, do not disclose the surface being provided with concave portions having a depth within a range of 0.3 to 3 (μm) irregularly, adjacent concave portions arranged irregularly. Sasaki does disclose a reflective layer type LCD in which the depth of concave portion is 0.5-5 (μm). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to modify Itoh et al in view of Sasaki for appropriate flatness of an overcoat layer in order to improve display quality (col. 9, ln 35-55 and col. 10, ln 45-65).

Ito et al. neither disclose the optical diffusion layer being made of a matrix of a transparent resin or a transparent adhesive, and having fine particles dispersed therein so as to flatten the reflection substrate. Higashi discloses a light reflecting layer having a thin metal film directly or via a primer coating on individual particles of single-layer coating (title and entire patent) and having a synthetic resin particles of a diameter range of 1-20 (μm) in a binder (col. 6, ln 15-55). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to modify Itoh et al in view of Higashi for efficient use of the light reflecting plate (col. 1, ln 1-15). As a result, the Applicant's haze range is met due to the same structure of the diffusion layer.

5. Claims 4-9, 11, 14-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al., US 5,841,496, in view of Sasaki, US 6,141,073 and Higashi, US 6,747,719, further in view of Meyerhofer, US 3,905,682.

Regarding the above claims, the modification to the Itoh et al. disclose the claimed invention as described above except for a front light source. Meyerhofer reference is directed to an LCD device of improved contrast by using a front light source so that light incident on a reflector can be used to increase display brightness (col. 1, ln 6-16). Therefore, it would have

Art Unit: 2871

been obvious to one of ordinary skill in the art at the time of the invention was made to employ the Ito et al LCD cell having a front light source as shown by Meywehofer in order to increase display brightness (Id).

6. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al., US 5,841,496, in view of Sasaki, US 6,141,073, Higashi, US 6,747,719, Meyerhofer, US 3,905,682, and further in view of Hay et al., US 2004/0228141 A1.

Regarding the above claims, the modification to the Itoh et al. disclose the claimed invention as described above except for a mass% of the fine particles. Hay et al. reference is directed to a diffuser for a display device in which an additive rate can be 0.5 to 1.5 mass% (see example 2). A comparison between the above values and the claimed range, it is shown that the ranges do overlap, and it has been found that overlapping ranges at least would have been obvious. See *In re Malagari*, 499 F.2d 197, 182 USPQ 549 (CCPA 1974). Furthermore, it would have been obvious to employ a particles rate in a diffusion layer as shown by Hay et al. in order to improve light scattering power film (see [0084]).

Response to Arguments

7. Applicant's arguments with respect to claims 18-20 have been considered but are moot in view of the new ground(s) of rejection as stated above.

8. Applicant's arguments filed 03/17/2006 have been fully considered but they are not persuasive.

Applicant's argument is that the Higashi's monoparticle layer is not "dispersed" in the adhesive 20a; but, rather, separated from it by the metallic layer 13. The Examiner is not

Art Unit: 2871

convinced by this argument since the same is true of the Higashi's monoparticle layer. It should also be noted that the term "disperse" recites one step of the processing in a device claim.

Therefore, this limitation has not been given patentable weight. In other words, Higashi does disclose the diffusion layer having fine particles (e.g., monoparticle) therein as claimed.

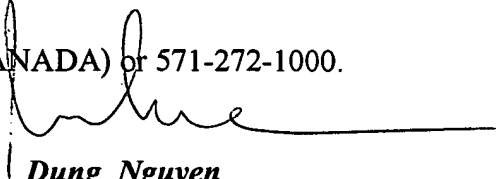
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DN
06/12/2006



Dung Nguyen
Primary Examiner
Art Unit 2871